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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,538	07/09/2003	Tatsuya Masuki	59549 (71360)	1953

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EXAMINER	
AUGHENBAUGH, WALTER	
ART UNIT	**PAPER NUMBER**
1772	

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/616,538	MASUKI ET AL.	
	Examiner	Art Unit	
	Walter B. Aughenbaugh	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) *8 and 9* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Acknowledgement of Applicant's Amendments

1. The amendments made in claims 1 and 8-10 in the Amendment filed July 26, 2005 (Amdt. A) have been received and considered by Examiner.

2. The amendments made in the abstract in Amdt. A have been received and considered by Examiner.

Election/Restrictions

3. Claims 8 and 9 were amended in Amdt. A to be directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Group II, claims 8 and 9, and Group I, claims 1-7 and 10, are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process such as blow molding.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 8 and 9 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

WITHDRAWN OBJECTIONS

4. The objection to claims 1 and 9 made of record in paragraph 3 of the previous Office Action mailed March 23, 2005 has been withdrawn due to Applicant's amendments in claims 1 and 9 in Amdt. A.

WITHDRAWN REJECTIONS

5. The 35 U.S.C. 112, second paragraph rejection of claims 8 and 10 made of record in paragraph 7 of the previous Office Action mailed March 23, 2005 has been withdrawn due to Applicant's amendments in claims 8 and 10 in Amdt. A.

6. The 35 U.S.C. 103 rejection of claims 1-10 made of record in paragraph 9 of the previous Office Action mailed March 23, 2005 has been withdrawn due to Applicant's arguments regarding the amorphous thermoplastic resin presented on pages 8-9 of Amdt. A.

REPEATED OBJECTIONS

7. The objection to the abstract made of record in paragraph 1 of the previous Office Action mailed March 23, 2005 has been repeated for the reasons previously made of record: the indentation at line 4 has not been removed so as to form a single paragraph (all other grounds for objection made of record have been withdrawn due to Applicant's amendments in the abstract in Amdt. A).

REPEATED REJECTIONS

8. The 35 U.S.C. 112, first paragraph rejection of claims 1, 4 and 5 made of record in paragraph 5 of the previous Office Action mailed March 23, 2005 has been repeated for the reasons previously made of record.

NEW REJECTIONS

Claim Rejections - 35 USC § 103

9. Claims 1-7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bird in view of Satake et al. and in further view of Sylvester et al.

In regard to claim 1, Bird teaches a resin container (carrier tape, item 100) comprising a container body (each pocket, item 112, formed in strip portion, item 102) and a lid (cover, item 120) for closing the container body (col. 4, lines 52-58, col. 4, line 66-col. 5, line 1, col. 6, lines 1-8 and Fig. 1 and 2). Bird teaches that the container body is produced by injection-molding any sufficiently flexible polymeric material (col. 12, lines 44-56 and col. 5, lines 51-57). Bird teaches that the container body comprises a peripheral rise portion (side walls, item 114) and a recessed flat portion (bottom wall, item 116) defined by the peripheral rise portion (col. 5, lines 1-9 and Fig. 1 and 2). Bird teaches that the pockets, item 112, may be designed to conform to the size and shape of the components that the pockets are intended to receive (col. 5, lines 21-22) and that the depth of the pocket can vary depending on the component that the pockets are intended to receive (col. 5, lines 38-39). Bird teaches that the dimensions of the polymeric web to be injection molded is determined by the gauge and width of the carrier tape that is to be formed (col. 12, lines 56-58). Bird teaches that the carrier tape, item 100, is used to carry electronic components such as chips (col. 1, lines 13-23).

Bird fails to explicitly teach that the polymeric material is an amorphous thermoplastic resin, that the side walls, item 114, have a height of 0.5 to 10 mm, that the bottom wall, item 116, has an area of 1 to 100 cm^2, that the bottom wall, item 116, has an average wall thickness of not more than 0.25 mm and that the bottom wall, item 116, has a flatness of not more than 0.5 mm.

Satake et al., however, disclose an injection-molded product for use as various electronic parts, as various trays and as containers (col. 11, lines 12-17 and 33-41) that may be formed from an amorphous thermoplastic resin (col. 21, lines 49-54). Therefore, one of ordinary skill in the art would have recognized to have used the amorphous thermoplastic resin taught by Satake et al. as the polymeric material of Bird et al. since the amorphous thermoplastic resin taught by Satake et al. is a suitable material for use as various electronic parts, as various trays and as containers as taught by Satake et al.

Sylvester et al., furthermore, disclose a chip/package system (col. 1, lines 7-14) and that the chip packaging industry standard maximum acceptable deviation from flatness is 2.5 μm (col. 2, lines 50-55). Therefore, one of ordinary skill would have recognized to have formed the recessed flat portion of Bird such that it has a flatness of less than 2.5 μm ($2.5x10^{-3}$ mm), since the chip packaging industry standard maximum acceptable deviation from flatness is 2.5 μm as taught by Sylvester et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the amorphous thermoplastic resin taught by Satake et al. as the polymeric material of Bird et al. since the amorphous thermoplastic resin taught by Satake et al. is a suitable material for use as various electronic parts, as various trays and as containers as taught by Satake et al. and to have formed the recessed flat portion of Bird such that it has a flatness of less than 2.5 μm ($2.5x10^{-3}$ mm), since the chip packaging industry standard maximum acceptable deviation from flatness is 2.5 μm as taught by Sylvester et al.

Furthermore, Sylvester et al. teach a chip having an area of 1 to 4 cm^2 (col. 1, lines 22-25 and 48-50). Therefore, since Bird teaches that the pockets, item 112, may be designed to

conform to the size and shape of the components that the pockets are intended to receive (col. 5, lines 21-22), one of ordinary skill would have recognized to have formed the bottom wall, item 116, of Bird such that it has an area large enough that a chip having an area of 1 to 4 cm^2 can be placed within the pocket, item 112, of Bird such that the chip lays flat on the recessed flat portion of the pocket. Furthermore, since Bird teaches that the pockets, item 112, may be designed to conform to the size and shape of the components that the pockets are intended to receive (col. 5, lines 21-22) and that the depth of the pocket can vary depending on the component that the pockets are intended to receive (col. 5, lines 38-39), one of ordinary skill in the art would have recognized to have formed the pockets of Bird such that the height of the side walls, item 114, is sufficient to enclose the particular chip to be enclosed in the pocket, as taught by Bird. Since Bird teaches that the dimensions of the polymeric web to be injection molded is determined by the gauge and width of the carrier tape that is to be formed (col. 12, lines 56-58), and therefore that the thickness of the bottom wall, item 116, is determined based on the particular component to be placed in the pocket, one of ordinary skill in the art would have recognized to have determined the thickness of the bottom wall of Bird that results in the optimal balance between strength of the bottom wall required to withstand the weight of the particular component to be placed in the pocket, and minimization of polymeric material used to form the carrier tape of Bird, depending on the particular desired end use.

In regard to claim 2, the container of Bird constitutes an outer shell for electric parts since Bird teaches that the carrier tape, item 100, is used to carry electronic components (col. 1, lines 13-20).

In regard to claim 3, the container body of Bird (each pocket, item 112) has a rectangular parallelepiped shape (Fig. 1), and longitudinal and lateral lengths of the flat portion (bottom wall, item 116) are larger than the height of the peripheral rise portion (side walls, item 114) (Fig. 1).

In regard to claim 4, Bird fails to explicitly teach that the bottom wall, item 116, has a surface waviness of not more than 50 μm.

Sylvester et al., however, disclose a chip/package system (col. 1, lines 7-14) and that the chip packaging industry standard maximum acceptable deviation from flatness is 2.5 μm (col. 2, lines 50-55, no distinction has been afforded between "surface waviness" as recited in claim 4 and "flatness" as recited in claim 1 because "flatness" is defined by Sylvester et al. as "the ratio of the maximum high to low deviation per unit area", and Applicant defines "surface waviness" as "a value obtained by measuring the difference between a maximum height and a minimum height which are parallel with an ideal plane of the surface to be measured..." on page 28 of the specification). Therefore, one of ordinary skill would have recognized to have formed the recessed flat portion of Bird such that it has a surface waviness of less than 2.5 μm since the chip packaging industry standard maximum acceptable deviation from flatness is 2.5 μm as taught by Sylvester et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the recessed flat portion of Bird such that it has a surface waviness of less than 2.5 μm, since the chip packaging industry standard maximum acceptable deviation from flatness is 2.5 μm as taught by Sylvester et al.

In regard to claim 5, Bird fails to explicitly teach that the bottom wall, item 116, has a sink mark depth of not more than 3 μm.

Sylvester et al., however, disclose a chip/package system (col. 1, lines 7-14) and that the chip packaging industry standard maximum acceptable deviation from flatness is 2.5 μm (col. 2, lines 50-55, no distinction has been afforded between "surface waviness" as recited in claim 4 and "sink mark depth" as recited in claim 5 because Applicant defines "surface waviness" as "a value obtained by measuring the difference between a maximum height and a minimum height which are parallel with an ideal plane of the surface to be measured, over a maximum measuring length of 30 mm using a surface roughness tester " on page 28 of the specification, and Applicant determines "sink mark depth" from the "surface roughness of a region and its surrounding portion on the surface to be measured where sink marks are formed is measured by a surface roughness tester to obtain a waviness curve thereof... [and] a distance between a tangent line of a higher inflection point and a tangent line of a lower inflection point is determined as the sink mark depth" on page 28 of the specification; i.e. both "surface waviness" and "sink mark depth" are the difference along the y-axis between the maximum and minimum on the surface roughness curve). Therefore, one of ordinary skill would have recognized to have formed the recessed flat portion of Bird such that it has a sink mark depth of less than 2.5 μm since the chip packaging industry standard maximum acceptable deviation from flatness is 2.5 μm as taught by Sylvester et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the recessed flat portion of Bird such that it has a sink mark depth of less than 2.5 μm, since the chip packaging industry standard maximum acceptable deviation from flatness is 2.5 μm as taught by Sylvester et al.

In regard to claim 6, the lid, item 120, of Bird is bonded to an edge of the side wall, item 114, of Bird (col. 6, lines 11-20 and Fig. 1 and 2).

In regard to claim 7, the recitation "by a welding method" is a method limitation that has not been given patentable weight since the method of forming the container is not germane to the issue of patentability of the container itself. The container body of Bird (each pocket, item 112) and the lid, item 120, are bonded to each other (col. 6, lines 11-20 and Fig. 1 and 2).

All the recitations of claim 10 are method limitations that have not been given patentable weight since the method of forming the container is not germane to the issue of patentability of the container itself.

Response to Arguments

10. Applicant's arguments regarding the 35 U.S.C. 112, first paragraph rejection of claims 1, 4 and 5 presented on pages 5-6 of Amdt. A have been fully considered but are not persuasive. Applicant states that definitions of the three terms are provided at page 27, line 6 to page 28, line 27, but this portion of the specification is the basis of the 35 U.S.C. 112, first paragraph rejection of record. Applicant has not addressed the issues raised in this rejection. Applicant states that Appendix A is a pictorial representation of the three properties "as described in the specification", but Applicant does not show how that which is depicted in Appendix A is "described in the specification" (Applicant has not addressed the issues raised in this rejection). Furthermore, Applicant has not shown how the definitions provided in the first three paragraphs of page 6 of Amdt. A are supported in the specification.

11. Applicant's arguments regarding the "produced by injection-molding" recitation of claim 1 and the applicability of the Sylvester patent presented on pages 7-10 of Amdt. A have been fully considered but are not persuasive.

Applicant argues that Bird does not teach that the container is "produced by injection-molding" as claimed, but Bird plainly teach that the container is produced by injection-molding at col. 12, lines 46-56. Applicant argues that injection molding is "completely different from thermoforming" and therefore, Bird does not teach injection molding, but Bird teach continuous injection molding as a means for supplying the web 200 to a mold 204, which is used to thermoform the pockets (col. 12, lines 46-56); therefore, the container of Bird is produced by injection-molding.

Applicant argues that Sylvester does not teach a container produced by injection-molding an amorphous thermoplastic resin, but since Bird teaches this for the reasons discussed above, Sylvester need not teach a container produced by injection-molding an amorphous thermoplastic resin. Applicant argues that "the method for measuring flatness in a metal laminate are completely different from the measurement techniques used for thermoplastic resins" and therefore the flatness values taught by Sylvester are not relevant, but Sylvester teaches the chip packaging industry standard maximum acceptable deviation from flatness as stated in the previous Office Action: since flatness is a property, flatness values are flatness values regardless of the particular method used to determine flatness. If a particular method was used to determine a property of a material that was different from flatness, that property would not be called flatness, but would be called something else to distinguish that property from flatness. Furthermore, Applicant argues that the maximum flatness value taught by Sylvester is only

applicable to metal surfaces, but this is clearly not the case (at col. 2, lines 16-23 Sylvester teaches that the materials from which the substrate layers are formed "tend to be quite diverse" and include epoxy resin in addition to metals).

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is 571-272-1488. While the examiner sets his work schedule under the Increased Flexitime Policy, he can normally be reached on Monday-Friday from 8:45am to 5:15pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is to 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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